

**We Claim:**

1. A method of making separations for color printing using two over-printed transparent inks which comprises:
  - providing a red, green, blue (RGB) encoded initial image;
  - 5        converting the RGB encoded image to a cyan, magenta, yellow (CMY) encoded image;
  - preparing cyan, magenta, and yellow image separations as source images;
  - determining visually selected dominant object colors of the original image;
  - 10        age;
  - choosing from a color palette two transparent ink spot colors which best represent the selected dominant object colors;
  - selecting two channels from the cyan, magenta, and yellow source images as first and second channels and assigning a selected transparent spot color to each
  - 15        channel;
  - superimposing the first and second channels now rendered with the selected spot colors to form a composite image;
  - adjusting greyscale values of the two superimposed spot color channels to visually produce an image most closely resembling the desired final image; and
  - 20        making new separations of the two channels suitable for preparing printing plates
2. The method of claim 1 in which the original digitally encoded RGB is initially adjusted for contrast, brightness, color balance, and tonal value prior to conversion to a CMY image.
- 25        sion to a CMY image.
3. The method of claim 1 that further includes performing global greyscale adjustment of each final separation by manipulating brightness, contrast and tone.
- 30        4. The method of claim 1 that further includes performing local greyscale adjustment of each final separation by manipulating brightness, contrast and tone.

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5 The method of claim 1 which further comprises providing red, green, and blue separations in addition to the original cyan, magenta, and yellow separations as source images for channel selection.

5 6. The method of claims 1 or 5 which further includes selecting a spot color similar in color to the printing substrate and including this color in a third channel prior to superposing the first and second channels.

10 7 The method of claim 6 that further includes performing global grey-scale adjustment of each final separation by manipulating brightness, contrast and tone.

8. The method of claim 6 that further includes performing local grey-scale adjustment of each final separation by manipulating brightness, contrast and tone.

15 9. The method of claim 1 in which there is a color relationship between the spot color of ink chosen to print a separation and the color channel represented by the channel.

20 10. The method of claim 9 in which the spot colors chosen for a cyan channel would be a variation of a cyan, blue, or green ink

11. The method of claim 9 in which the spot colors chosen for a magenta separation would be a variation of a magenta, red, or blue ink.

25 12. The method of claim 9 in which the spot colors chosen for a yellow separation would be a variation of a yellow, green, or red ink.

30 13. The method of claims 1, 5, or 6 which further includes converting the original RGB image to L\*a\*b\* encoding, selecting the L\* channel, and combining it as a third channel with the two superimposed channels carrying the spot colors, the third channel rendering an opaque masking color.

14. The method of claim 13 in which the masking color is laid down as an opaque ink prior to application of the two transparent inks

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15. The method of claim 13 in which the masking color is laid down as an opaque ink subsequent to application of the two transparent inks.

5 16. The method of claims 1 or 5 in which the substrate being printed is paper.

17. The method of claim 16 in which the paper is colored.

10 18. The method of claim 17 in which the paper is an unbleached kraft paper.

19. The method of claim 18 in which the kraft paper is an outer liner-board of corrugated containerboard.

15 20. The method of claim 19 in which the corrugated containerboard is formed into a shipping container.

21. The method of claim 6 in which the substrate being printed is paper.

20 22. The method of claim 21 in which the paper is colored.

23. The method of claim 22 in which the paper is an unbleached kraft paper.

25 24. The method of claim 23 in which the kraft paper is an outer liner-board of corrugated containerboard.

30 25. The method of claim 24 in which the corrugated containerboard is formed into a shipping container.

26 The method of claims 13 in which the substrate being printed is paper.

27. The method of claim 26 in which the paper is colored.

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28. The method of claim 27 in which the paper is an unbleached kraft paper.

29. The method of claim 28 in which the kraft paper is an outer liner-  
5 board of corrugated containerboard

30. The method of claim 29 in which the corrugated containerboard is formed into a shipping container

10 31. A paper product printed by the method of claims 1,5,6, or 13.

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